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THE DEVELOPMENT OF A MODERN CURRICULUM IN VOCATIONAL AGRICULTURE.

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CURRICULUM PATTERN OPTIONS FOR VOCATIONAL AGRICULTURE ARE PRESENTED IN THIS GUIDE. MAJOR PROGRAM OBJECTIVES ARE TO DEVELOP--(1) AGRICULTURAL COMPETENCY FOR PRODUCTION AGRICULTURE, (2) AGRICULTURAL COMPETENCY FOR OFF-FARM OCCUPATIONS, (3) AN UNDERSTANDING OF CAREER OPPORTUNITIES AND REQUIRED TRAINING, (4) THE ABILITY TO ENTER AND ADVANCE IN AN AGRICULTURAL OCCUPATION THROUGH CONTINUING EDUCATION, (5) ABILITIES IN HUMAN RELATIONS, AND (6) ABILITIES IN LEADERSHIP AND FULFILLING RESPONSIBILITY. SPECIALIZATION, MULTIPLE TRACK, AND INTEGRATED STRUCTURES ARE EXPLAINED, AND SPECIFIC EXAMPLES OF EACH, REPRESENTING PROGRAMS IN WISCONSIN, ARE DESCRIBED. THE EXAMPLES INCLUDE INFORMATION ON COURSE OFFERINGS, SCHEDULING SYSTEMS, AND COURSE OBJECTIVES. (JM)

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THE COURSE OF STUDY COMMITTEE

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F O R E W O R D

This publication is a result of the combined efforts of the Course of Study Committee of the Wisconsin Association of Vocational Agriculture Instructors (WAVAI), the Department of Agricultural and Extension Education at the University of Wisconsin and members of the supervisory staff of the Rural Division, State Board of Vocational and Adult Education.

It was felt that as Vo-Ag teachers in Wisconsin developed new ideas concerning the curriculum, there should be a free exchange of all new plans. This publication should be considered only as a collection of many ideas, objectives, and programs, and not as a new state course of study outline. There has been no attempt to include all of the new ideas concerning the curriculum being explored in Wisconsin and other states.

The hope of this committee, as it presents the material herein, is that each teacher will evaluate his own situation, search this material for ideas, and develop a stronger local program in vocational agriculture.

TABLE OF CONTENTS

CHAPTER		PAGE
	FOREWORD	ii
I	INTRODUCTION	1
II	PROPOSED OBJECTIVES FOR VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE	4
III	TRENDS IN CURRICULUM DESIGN	13
IV	CURRICULUM PATTERNS IN VOCATIONAL AGRICULTURE . .	15
	The Specialization Structure	
	Janesville	16
	West Bend	17
	Winneconne	20
	Shawano	21
	Milton Union	23
	Hartland	24
	The Multiple Track Structure	
	Example A	25
	New York	26
	Illinois	27
	Alabama	28
	Manitowoc	29
	The Modern Integrated Structure	
	Wisconsin State Board	30
	Walworth	31
	Fort Atkinson	31
V	CONCLUSION	34

I

INTRODUCTION

In 1917 the Smith-Hughes Act was passed by Congress to initiate and give financial support to vocational education. At that time, approximately thirty percent of the population in the United States was actively engaged in the business of farming. In 1946, the George Barden Act was enacted to provide additional financial support. In 1950, 15.5 percent of the U. S. population was engaged in farming. These acts stated that the controlling purpose of vocational education in agriculture shall be of less than college grade and be designed to meet the needs of persons over 14 years of age who have entered or are preparing to enter upon the work of the farm. These acts, therefore, made it mandatory that the agricultural education program be vocational in character if it is to be aided by Federal funds appropriated under the provisions of these acts.[1]

According to 1960 census data, only eight percent of the population or about six million people are presently engaged in the business of farming. Yet statistics show that more than 22 million people were employed in some type of agriculture:

Total employed in the U. S. Labor Force . . .	66.7 Million
Employed in some type of Agriculture	21.7 Million
Breakdown of Agricultural Employment	
Distribution	10.0
Produce for or service farmers	6.0
Actually in farming	5.7
	21.7

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[1]Educational Objectives in Vocational Agriculture. U. S. Office of Education, Washington, D. C. Vocational Division Monograph No. 21, Revised 1955.

These figures illustrate a change which has occurred in the number of people actually engaged in farming, yet they also show the large numbers in occupations related to agriculture. From such figures we seek direction to assist in formulating training programs. Rapid changes are occuring in the field of agriculture. Vocational agriculture has also changed and must continue to make adjustments to the current needs. The changes must, however, be orderly and planned. For this reason, this material has been assembled.

Vocational agriculture is not alone in being considered due for change. The whole field of vocational education has been under scrutiny during recent months. In the government report, "Social Dynamite", it was stated that "some criticism has been directed toward vocational schools because their programs do not adequately satisfy the needs for skills in our modern society and economy".[1]

Possibly one of the strongest mandates for change of vocational agriculture courses of study came from the President's Panel of Consultants on Vocational Education. As part of the agenda for action, this report suggested "The vocational agriculture program, under Federal reimbursement, should be broadened to include instruction and increased emphasis on management, finance, farm mechanization, conservation, forestry, transportation, processing, marketing the products of the farm and other similar topics".[2]

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[1]National Committee on Children and Youth. "Social Dynamite," The Report of the Conference on Unemployed Out-of-School Youth in Urban Areas.

[2]Summary Report of the Panel of Consultants on Vocational Education. "Education for a Changing World of Work". OE Pub. No. 80020, U. S. Dept. of Health, Education and Welfare. Office of Education, Washington, D. C., 1962.

Many of the panel's recommendations were incorporated into the Vocational Education Act of 1963[1] which was designed to greatly expand and improve educational opportunities for youth and adults as they prepare for or improve their proficiency for occupations in the changing world of work. The new federal legislation makes it possible for public schools to offer varied educational programs needed in agricultural occupations, in addition to farming.

The Vocational Education Act of 1963 stated that ". . . any amounts allotted. . . for agriculture may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupations involve work of the farm. . ." In other words, the legislation has permitted the broadening of the definition of vocational agriculture to include training for many related agricultural occupations, such as horticulture, food processing, marketing, farm equipment repair and many others.

If education in agriculture is to keep pace with the rapidly changing technology occuring in agriculture, new objectives must be formulated which will expand the present program in agricultural education and provide direction for the future.

As a result of the current emphasis on new dimensions in vocational education, a committee of educators was appointed by the U. S. Office of Education to rewrite the objectives for Vocational Agriculture in Education. The first draft of the objectives proposed by this group is included in this report.

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[1]U. S. Congress, Public Law 88-210, 88th Congress, H. R. 4955, December 18, 1963.

II

PROPOSED OBJECTIVES FOR VOCATIONAL AND TECHNICAL EDUCATION IN AGRICULTURE[1]

The objectives of vocational education in agriculture should reflect the occupational needs of workers in agriculture and should supplement and be in accord with the objectives of general and vocational education.

Agriculture, in common with other business and industry, has experienced rapid and continual change. This has resulted in misconceptions and questions as to what the term "agriculture" means and implies. Some think of "agriculture" solely as "farming," and they use these two terms synonymously. Others regard agriculture as a single occupation in which persons with similar training perform identical tasks.

To clarify these concepts and terms,

-- The terms "agriculture" and "farming" are not synonymous;

-- Agriculture is broader and more inclusive than farming;

-- Farming is only <u>one phase</u> of agriculture, but it is the basic segment, with processing, marketing, and service occupations growing out of it;

-- Agriculture is <u>not</u> a single occupation, but rather it is made up of groups of occupations which may be broadly categorized as to production, marketing, processing, and service occupations;

-- Farming also is not a single, but rather a group of occupations, each occupation requiring specific skills and abilities, some similar and some different;

-- Farming, in its modern context, may well be termed "production agriculture."

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[1]This chapter is made up of the major portion of a report. Prepared by Joint Office of Education and AVA Committee.

-- While the number of farms and the number of those employed in the production of food and fiber may decrease as production becomes more efficient, the number of those employed in the processing and marketing of agricultural products and servicing the production units has increased.

These emerging concepts and definitions are but reflections of the changes in agriculture which are occurring at an accelerated pace. The magnitude of these changes emphasizes the importance of providing workers in the broad field of agriculture with the best possible educational opportunities. Education is required not only to enable them to acquire the new technical skills, abilities, and knowledge needed to assure an adequate supply of food and fiber for the nation, but also to acquire those fundamental abilities needed by all citizens.

In fulfilling its responsibilities, vocational education in agriculture contributes to the general education objectives of the public schools. This is attained through study of the application of principles of science to the production, processing, marketing, and servicing operations in agriculture. Vocational education in agriculture also concerns itself with the development of attitudes and abilities needed for effective leadership and citizenship.

Vocational and technical education is an accepted responsibility of public education. It is an integral part of the total educational program, broadening and enhancing it.

In accepting the premise that vocational and technical education in agriculture is an essential part of a well-balanced vocational education program, which itself is an integral part of the total comprehensive school program, vocational educators should develop program objectives and procedures that are compatible with the central purpose of general education.

> The purpose which runs through and strengthens all other educational purposes--the common thread of education--is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world.[1]

> More than ever before, and for an ever-increasing proportion of the population, vocational competence requires developed rational capacities. The march of technology and science in modern society progressively eliminates the positions open to low-level talents. The man able to use only his hands is at a growing disadvantage as compared with the man who can also use his head. Today even the simplest use of hands is coming to require the simultaneous employment of the mind.[2]

The purposes of vocational and technical education in agriculture are derived from the broad setting of our democratic society, the public schools, agricultural technology, and vocational and technical education. These purposes are threefold: (1) To contribute to the educational objectives of American public education; (2) to contribute to the controlling purpose of vocational education, which is to "fit persons for gainful employment"; and (3) specifically, to provide training and retraining for youth and adults which is realistic in light of actual or anticipated opportunities for employment.

If vocational and technical education in agriculture is to fulfill these expectancies, the program must be continually evaluated, adjusted, and extended to meet the needs and demands of current technological developments and new social and economic conditions.

In view of the dynamic nature of agriculture and of our society, diversity, flexibility, and adaptability should characterize programs of the future. No single pattern will adequately fulfill all of these purposes.

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[1]Educational Policies Commission, The Central Purpose of American Education. Washington: National Education Association, 1961, p. 12.

[2]Ibid., p. 6.

Programs should be evolved which provide the training and education needed by "persons of all ages, in all communities" to prepare them for gainful employment in agriculture. Vocational education in agriculture should open the door to equal educational opportunity for all citizens, without regard to academic ability or socio-economic background. Clearly there is a need for providing a broad range of educational opportunities in agriculture to all who are interested in and will benefit from it. These needs range from those of the technically talented to the academically handicapped, the socially and economically deprived, the technologically displaced, and the slow learner.

Specifically, vocational and technical education in agriculture is concerned with:

1. Secondary school youth, out-of-school youth, and adults who wish full-time vocational and technical training for entry into agriculture;

2. Employed youth and adults who need vocational and technical training in agriculture to upgrade their occupational performance;

3. Those youth and adults who cannot benefit from regular vocational and technical education programs in agriculture, but who can benefit from programs designed to meet their special needs.

Finally, there is implied in the technological developments in the world of work a merging of traditional occupational categories. Therefore, in carrying out the mandate to develop occupational competence in agriculture, we should continually be aware of the need for and desirability of establishing and maintaining effective working relationships with other vocational services and agricultural and educational agencies and groups, including those concerned with the teaching of agriculture as a nonvocational subject.

Major Program Objectives for Vocational and Technical Education in Agriculture

Objective 1. To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture.

The attainment of this major objective requires competencies in one or more areas of plant science, animal science, soil science, agricultural business management, and agricultural mechanization. These are several different occupational levels at which individuals are engaged in production agriculture (owner-operator, manager, tenant, technician, laborer, etc.). Since the knowledge and skills needed at different levels vary, educational programs designed to prepare and upgrade individual workers must also vary in length and level of instruction, depending upon the occupational requirements.

Accomplishment of this major objective requires a coordinated relationship between the course of study and supervised occupational experience.

Specific teaching objectives should be established on the basis of the abilities required of an individual to satisfactorily perform certain operations in production agriculture. These may be determined by making an analysis of the operative and managerial functions performed by successful farmers or operators or other agricultural production businesses.

Objective 2. To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture.

The efficient production of agricultural commodities requires many goods and services which are usually provided by specialized businesses. The productivity of the agricultural economy will be

influenced by the competencies of the workers in these businesses. Therefore, appropriate educational programs must be designed, not only for those who produce agricultural commodities, but also for those who are engaged in or will engage in other agricultural occupations--the processing, distribution, and service segments of agriculture.

Studies show that experience and training in production agriculture are either essential or highly advantageous for workers in these agricultural occupations.

Objective 3. To develop an understanding and appreciation of career opportunities in agriculture and of the preparation needed to enter and progress in agricultural occupations.

Modern agriculture is broad and complex, involving hundreds of professional, technical, and vocational occupations which require extensive knowledge and highly developed skills for successful performance. Current trends indicate that agriculture will become even more complex and specialized in the future. Thus, individuals aspiring to enter and/or progress in agricultural occupations should become knowledgeable concerning the types of jobs and their characteristics. This would include the number of employment opportunities annually, abilities required, beginning salaries, advancement opportunities, and promise of satisfaction.

In making a tentative occupational choice and beginning to prepare for it, the prospective worker must assess his individual characteristics and interests in relation to the requirements of the occupation and the employment opportunities it affords.

Objective 4. To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education.

The main objective of all students of vocational and technical education is successful entry and advancement in an occupation. Occupations in agriculture may be classified as vocational, technical, or professional according to the level of preparation required. For many of these occupations, vocational education in full-time high school classes, followed by part-time enrollment in post-high school classes, is sufficient for satisfactory placement and advancement.

An increasing number of agricultural occupations require technical or professional education. For students who desire a placement at these levels, courses in high school designed to develop vocational competence, supported by other selected subjects, make up a desirable pre-technical or pre-professional program of instruction. Studies have shown that such preparation develops attitudes and abilities which enable the student to complete technical and professional programs successfully.

Recognizing the dynamic nature of agricultural occupations, no educational program should be considered as terminal. Students need to understand that continuing education will be a normal pattern for agricultural workers of the future.

A student should be aware of occupational opportunities and requirements throughout his preparation for his chosen field. Instructors, guidance counselors, and professional placement personnel can assist the student in securing employment, but they cannot guarantee employment or job success. These responsibilities rest with the individual.

Instructors are primarily responsible for developing the student's needed abilities, but in fulfilling these responsibilities, they should enlist the aid of other competent persons.

Objective 5. To aid in developing those abilities in human relations required for success in agricultural occupations.

Vocational and technical education is concerned with the optimum development of each worker as a person. It is not limited to the development of specific and narrow occupational competencies. Therefore, it shares with other segments of education the responsibility for the development of human relations abilities. Occupational success is influenced by the inter-personal relationships between the worker and his co-worker and society in general. In many instances the successful application of a specific occupational competency depends on effective human relations.

Objective 6. To aid in developing the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities.

In a democracy, every occupational area functions in a complex social setting. The need for developing constructive, effective leadership abilities in all students is self-evident. Modern agriculture demands skilled individuals who can provide leadership in developing programs and policies that will create and maintain an optimum climate for agriculture consistent with the general welfare.

Participating experiences in the many intracurricular activities of student organizations provide excellent opportunities for development of individual leadership and for cooperation with fellow members

on a common enterprise. A local, state, and national organizational structure of leadership from officers and others elected by the members furnished a practical educational laboratory in democratic leadership and citizenship.

III

Trends In Curriculum Design

The objectives of vocational education in agriculture have broadened to include more than education for farming. As a result, trends are now developing across the nation concerning the design of a modern curriculum in vocational agriculture.

Teachers of vocational agriculture are in agreement that new curriculum content must, as has been true in the past, be organized around the supervised experience program. This has been one of the strongest elements of the program and it should remain as the keystone for future curriculum planning.

One element which appears in all of the major curriculum categories explored in this booklet is the trend toward offering more agriculture courses at the high school level in an attempt to meet the diverse needs of the pupils. It is becoming evident that today's vocationally oriented student is often interested in only certain phases of agriculture even if he plans to become a farmer.[1]

Clark[2] has expressed a belief that future high school programs will be organized quite largely on a semester basis so that students will be able to elect certain portions of the total vocational agriculture program.

Regardless of the structure selected, the curriculum must indicate the specific subject areas taught. Agriculture I, II, III, and IV

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[1]Lloyd J. Phipps. Handbook on Agricultural Education in Public Schools. The Interstate Printers & Publishers, Inc., Danville, Illinois, 1965. p. 150.

[2]Raymond M. Clark, Teacher Trainer, Michigan State University. "Program Planning in Non-Farm Agricultural Occupations." Talk given at the Agricultural Teachers Section, South East Wisconsin Teachers' Association, February 26, 1965.

as titles for the high school courses in agriculture no longer provide the type of information desired by today's student. Nearly every other course in high school has a very specific and descriptive title which students, parents, administrators, guidance personnel and teachers have come to expect of every course.

In the modern high school curriculum, increasing numbers of required and elective courses are competing for the student's class time. In order to maintain its competitive position as an elective subject, the vocational agriculture curriculum must be designed and labeled to meet the demands.

Teachers must recognize that there is no one "master" curriculum which will meet the needs of all departments of vocational agriculture in Wisconsin. Every situation or department in the state has its own unique features which make a single, state adopted structure an impossibility. No instructor should consider using a curriculum structure without a great deal of modification to fit local needs. The primary justification for this publication is that teachers, throughout the state, after considerable evaluation, will be able to find within some of the plans presented herein, a central idea from which they might build. There is an imperative need for teachers to become aware of some of the most recent thinking in the area of curriculum development.

Keep the fact in mind that each of the programs presented in the next chapter were developed to fit a particular community. If certain aspects need clarification, the instructor conducting the program should be consulted.

IV

CURRICULAR PATTERNS IN VOCATIONAL AGRICULTURE

The Specialization Structure

I. The Vocational Agriculture Curriculum

Janesville, Wisconsin - William Becker, Instructor

The Janesville curriculum is oriented around specific agricultural subjects which are one semester in length. Five subjects are taught each semester on a two-year rotation plan. Thus, a total of 20 different subjects would be possible in the two-year period. However, Agricultural Survey and Agricultural Engineering are each taught two semesters each year and are repeated each year instead of rotating as do all other subjects. This means that over a two-year period, the instructor must be prepared to teach a total of 16 different one semester subjects.

The Janesville curriculum was planned to permit students to take one to eight or more semesters of agricultural subjects and concentrate on those areas which they felt they needed the most. A student interested in conservation, for example, may want to study soils, crops and conservation in considerable depth and avoid the livestock and marketing units. Under this curriculum, he would be allowed to select the subjects which he felt he needed and not be forced to sit through several weeks of unrelated material.

The selection of courses changes each semester and no specific sequences are required. Thus, a student would not necessarily need to follow the same hourly schedule in the second semester. For example, he could take farm management the first semester and agricultural engineering the second or soil science the first and swine science the second semester.

All students are expected to carry some type of farming or experience program under the supervision and consent of the instructor. Since the program is highly specialized, an increased responsibility is placed on the instructor to insure the vocational aspects of the program.

THE JANESVILLE CURRICULUM

ODD NUMBERED YEARS (1965, 1967, 1969)

Class Period	Grade	1st Semester	2nd Semester
1	9	Agricultural Survey I	Agricultural Survey II
2	10-11-12	Beef Science	Swine Science
3	10-11-12	Soil Science	Crop Science
4	10-11-12	Agri. Engineering I	Agri. Engineering II
5	11-12	Agri. Economics	Conservation

EVEN NUMBERED YEARS (1966, 1968, 1970)

Class Period	Grade	1st Semester	2nd Semester
1	9	Agricultural Survey I	Agricultural Survey II
2	10-11-12	Dairy Science I	Dairy Science II
3	10-11-12	Sheep Science	Poultry Science
4	10-11-12	Agri. Engineering I	Agri. Engineering II
5	11-12	Farm Management	Horticulture

NOTE: Assume you are a freshman in the fall of 1965. You would be required to take Agricultural Survey both semesters the first year. The next year, you would select from courses offered for the even numbered years (1966). Then as a junior in 1967, you would select courses offered for the odd numbered years. Finally, as a senior in 1968, you would be allowed to select from the wide range offered under the even numbered year schedule.

2. The Agriculture Science Curriculum

West Bend High School - Roger Christy, Instructor

EVEN NUMBERED YEARS (1966, 1968, 1970)

Grade	1st Semester	Grade	2nd Semester
9	Introd. to Agri. I	9	Introd. to Agri. II
10-11	Dairy Science I	10-11	Dairy Science II
10-11	Crop Science	11-12	Conservation
11-12	Farm Management	11-12	Horticulture
10-11-12	Agri. Engineering I	10-11-12	Agri. Engineering II

ODD NUMBERED YEARS (1965, 1967, 1969)

Grade	1st Semester	Grade	2nd Semester
9	Introd. to Agri. I	9	Introd. to Agri. II
10-11	Animal Science I	10-11	Animal Science II
10-11	Soil Science	11-12	Conservation
11-12	Agri. Marketing	11-12	Agri. Seminar
10-11-12	Agri. Engineering I	10-11-12	Agri. Engineering II

Description of the Agriculture Science Curriculum

West Bend, Wisconsin

The West Bend curriculum will permit students to take one to eight or more semesters of agricultural subjects and concentrate on those areas which they feel they need most. A student interested in conservation, for example, may want to study soils, crops, and conservation in considerable depths and avoid the animal and marketing units. The selection of courses would change each semester and no specific sequences are required. Thus, a student would not necessarily need to follow the same hourly schedule in the second semester. For example, he could take farm management the first semester and agricultural engineering the second semester.

Students interested in any of the semester units above should contact the Vocational Agriculture Instructor. Any student (boy or girl) who is interested may enroll in any of the semester courses.

Introduction to Agriculture

This course is designed to make the student aware of all of the opportunities and areas which compass the field of Agriculture. He will learn the importance of agriculture in the world today and receive general instruction in each of its many phases. Some of the many areas covered will be:

Landscaping
Conservation
Forestry
Gardening & Orchards
Crop & Plant Science
Animal Science
Soil Science
Agri. Mechanics
Marketing
Farm Management

Soil Science

To make the student aware of the basic indispensability of soil to all phases of agriculture as well as its composition relative values and plans for its preservation, this class will concentrate on the following:

1. Nature and Importance
2. Judging and Classification
3. Management
4. Sampling and Testing
5. Fertility and Fertilizers
6. Conservation & Cropping Program
7. Irrigation

Animal Science I and/or II

A two semester course in which the student will make a thorough study of animal husbandry. The first semester will concentrate on beef and swine. In the second semester the student will study sheep, poultry, horses, and other small animals. The content of Animal Science I and II will follow the outline below:

Selection Anatomy & Physiology
Management
Nutrition
Genetics
Disease & Parasites
Marketing

Agriculture Engineering I & II

The primary objective of this two semester class is to give the student a degree of proficiency in handling the many tools and materials involved in building and repairing farm buildings, and the maintenance and operation of farm equipment and machinery. The specific course outline for each semester is as follows:

Agri. Engineering I

Handling & care of shop tools & equipment
Woodworking and painting
Carpentry and farm structures
Concrete work & plumbing

Agri. Engineering II

Welding-arc & oxyacetylene
Electricity & Electric Motors
Machinery: Selection-Adjustment
Maintenance-Repair
Small gas engines
Tractor & truck maintenance

Agriculture Marketing

Students who have demonstrated their interest in Agriculture may substitute this semester class for half of their Social Studies credit. This class studies the handling, processing, and distribution of food, beginning with the raw materials produced on the farm to the finished products on the store shelves. Special concentration will be given to:

- Nature of marketing problems
- Farm products
- Services & service agencies
- Price determination & stabilization
- Cooperatives
- Business organizations
- Government influence

Conservation

This will help students develop an understanding and an appreciation for the conservation, establishment, and preservation of all natural resources. The resources studied in this class include: Soil, water, recreation, wild life, forestry, laws and regulations, and the relationship of conservation to community, state, and nation.

Agriculture Seminar

This class provides an opportunity for each student to study independently and in an area of his own choice. This course is restricted to those students who plan to further their education beyond the high school level.

3. Vocational Agriculture Curriculum

Winneconne, Wisconsin - Kenneth Dusso, Instructor

Grade Level	Semester I	Semester II
9	Survey of Agriculture	Survey of Agriculture
10-11-12	Agriculture Engineering	Crop Science
10-11-12	Dairy Science	Meat & Poultry Production
10-11-12	Horticulture	Agriculture Economics
10-11-12	Soil Science	(11-12) Farm Management

All of the courses will be offered each year.

Recommendations

Students should take the Agricultural Survey course before enrolling in further agricultural study. Students interested in Farming or Agricultural Engineering as careers should enroll in the woodworking, metalworking and small engines courses in the Industrial Arts Department.

Farming Programs and Work Experience Programs

Farming programs and work experience programs should be started in the freshman year. The type of program will depend on the individual students' interest. Time should be allotted during the day for the instructor to counsel individually with the student and to develop his program. Summer supervision and instruction would continue to play an important part in the development of the student and his program.

Justification of the Program

Of the 60 students enrolled in vocational agriculture during the 1964-65 school year, 21 were from city or rural non-farm homes. This number is expected to increase each year.

Therefore, it is essential that we provide the background, not only for those students interested in farming, but also for those students interested in other phases of agriculture.

4. Vocational Agriculture Curriculum

Shawano, Wisconsin - Merlyn Blonde, Instructor

A. Curriculum Structure

Subjects will be taught in alternate years except as listed.

ODD YEAR (1965-66)

1st Semester	2nd Semester
Agricultural Survey I (9th)	Agricultural Survey II (9th)
Dairy Science I	Dairy Science II
Agricultural Mechanics	Animal Nutrition
Agricultural Machinery	Agricultural Power
Forestry	Conservation

EVEN YEAR (1966-67)

1st Semester	2nd Semester
Agricultural Survey I (9th)	Agricultural Survey II (9th)
Soil Science	Crop Science
Agricultural Mechanics	Agricultural Structures
Farm Records & Accounting	Agri. Economics & Marketing
Advanced Agricultural Survey	Ornamental Horticulture

B. Enrollment Requirements

Any student willing to conduct an experience program which will develop some degree of occupational competency can enroll in the program.

Examples:

1. Students living on farms can have the traditional farming programs.

2. Non-farm students can use farm placement, job-placement or work experience as their supervised experience program providing their choice is approved by the instructor.

C. Enrollment Recommendations

1. Students are encouraged to enroll in the program for two or more years.

2. Students are encouraged to select a sequence of courses which pertains to the specific area of agriculture that he or she is interested in.

3. Junior and Senior students should consider taking two vo-ag subjects each semester if they are interested in an intensified program.

4. Experience programs began in the area of the students choice should remain the same for his or her total vo-ag program regardless of what subjects they are enrolled in.

D. Program Divisions

This Vo-Ag program is designed to provide a diversified selection of courses. Students considering entering the business of farming or furthering their education in the field of agriculture should select the "Intensified Program", while the students interested in only a specific area of agriculture might consider one of the "Modified Programs" or a variation of both. A planned program should be selected by each with the aid of a guidance counselor and the vo-ag instructor.

The following programs are suggested for different areas:

1. Intensified Program - Farm Mgy.

Agricultural Survey I and II
Dairy Science I and II
Animal Nutrition
Soil Science
Crop Science
Farm Records and Accounting
Agri. Economics & Marketing
Agri. Mechanics
Agri. Machinery
Agri. Power
Agri. Structures

2. Modified Program

(a) Agri. Engineering

Agri. Mechanics
Agri. Machinery
Agri. Power
Agri. Structures
Advanced Agri. Survey

(b) Agricultural Business

Agri. Survey I & II
Dairy Science II
Farm Records & Accounting
Advanced Agri. Survey
Agri. Econ. & Marketing

(c) Conservation

Agri. Survey I & II
Forestry
Conservation
Soil Science
Crop Science
Advanced Agri. Survey
Ornamental Horticulture

5. Vocational Agriculture Curriculum

Milton Union High School - Daryl Burrow, Instructor

Freshmen -- beginning Agriculture students, a mandatory course

1. Agriculture Survey (Basic Agriculture)

Sophomore -- choice of

1. Agriculture Engineering I -- (Drafting & Woodworking) (Second Ag. only)
2. Dairy Science
3. Soils and Crops

Juniors -- choice of

1. Agriculture Engineering II -- (Metals, Forging, Welding, Soldering) (Second Ag. course only)
2. Landscaping, Horticulture & Conservation
3. Meat and Animal Science

Seniors -- choice of

1. Farm Law & Agriculture Economics
2. Agriculture Production & Agri-business
3. Agriculture Engineering III -- (Farm Machinery, Electricity, Advanced Projects) (Second Ag. course only)

This curriculum is set up to give the agriculture student an opportunity for specialization. The program is very flexible depending on the school. If the department is a one-man department, the program can be run on a semester basis with sophomores, juniors, and seniors having the same choices offered every other year. A student can elect to take more than one course if the second is taken as a fifth or sixth course. This has been true at Milton very often. Milton is presently a two-man department and the program works very well.

6. Arrowhead High School Agricultural Curriculum

Hartland, Wisconsin - Carl Benrud, Instructor

1964 - 1965 School Year

First Semester

Title - Exploring Modern Agriculture

Grades 9 & 10

Contents

1. Agricultural Survey	5 wk.
2. D. H. I. A.	3 wk.
3. Conservation	10 wk.

Grades 10-11-12

Title - Animal Science

1. Feeds and Feeding	4 wk.
2. Selection and Management	
A. Hogs	3 wk.
B. Beef	4 wk.
C. Poultry	3 wk.
D. Sheep	4 wk.

Grades 11 and 12

Title - Farm Management

1. Government Programs and Aids	2 wk.
2. Farm Law	4 wk.
3. Planning a Farm Business	2 wk.
4. Operating a Farm	4 wk.
5. Farm Accounts and Income Tax	4 wk.
6. Farm Organizations	2 wk.

Second Semester

Title - Soil Science and Agronomy

Grades 9 & 10

Contents

1. Soil Science	9 wk.
2. Crop Science	9 wk.

Grades 10-11-12

Title - Dairy Science

1. Judging	2 wk.
2. Dairy Industries	3 wk.
3. Genetics	2 wk.
4. Dairy Cattle Mgmnt.	5 wk.
5. Building, Construction and Woodworking	6 wk.

Grades 11 and 12

Title - Horticulture

1. Landscaping	3 wk.
2. Gardens and Flowers	2 wk.
3. Orchards and Small	
4. Fruits	6 wk.
4. Review Soils	2 wk.
5. General Farm Shop or marketing	5 wk.

Alternate Years

Grades 11 and 12

Title - Advanced Animal Science

1. Diseases	4 wk.
2. New Management Practices	8 wk.
3. Farm Shop	6 wk.

Grades 11 and 12

Title - Advance Soils and Agronomy

1. Advanced Soils	4 wk.
2. Advanced Agronomy	4 wk.
3. Agricultural Programs	2 wk.
4. Conservation	3 wk.
5. Farm Shop	5 wk.

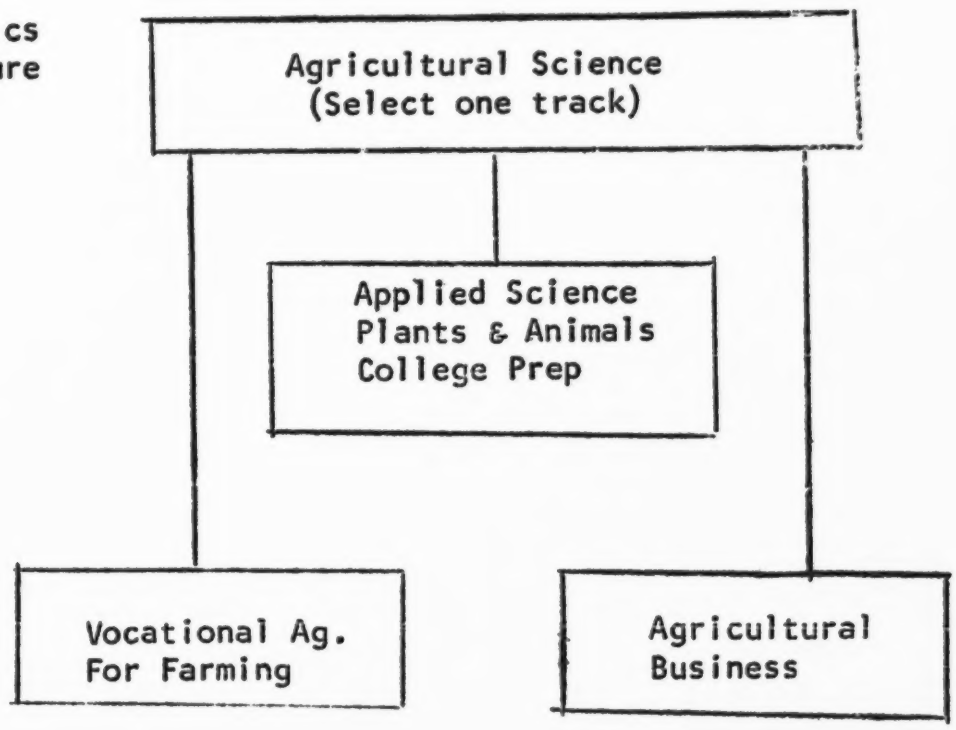
Additional Information

1. A farming program or working experience giving practical training in the course studied is a requirement.
2. One course of Agriculture per semester will be the limit.
3. Girls are permitted to enroll in all classes except the Agriculture to be taught during alternate years.
4. The alternate year program will not be offered during the 1965-66 school year.

Multiple Track Structure

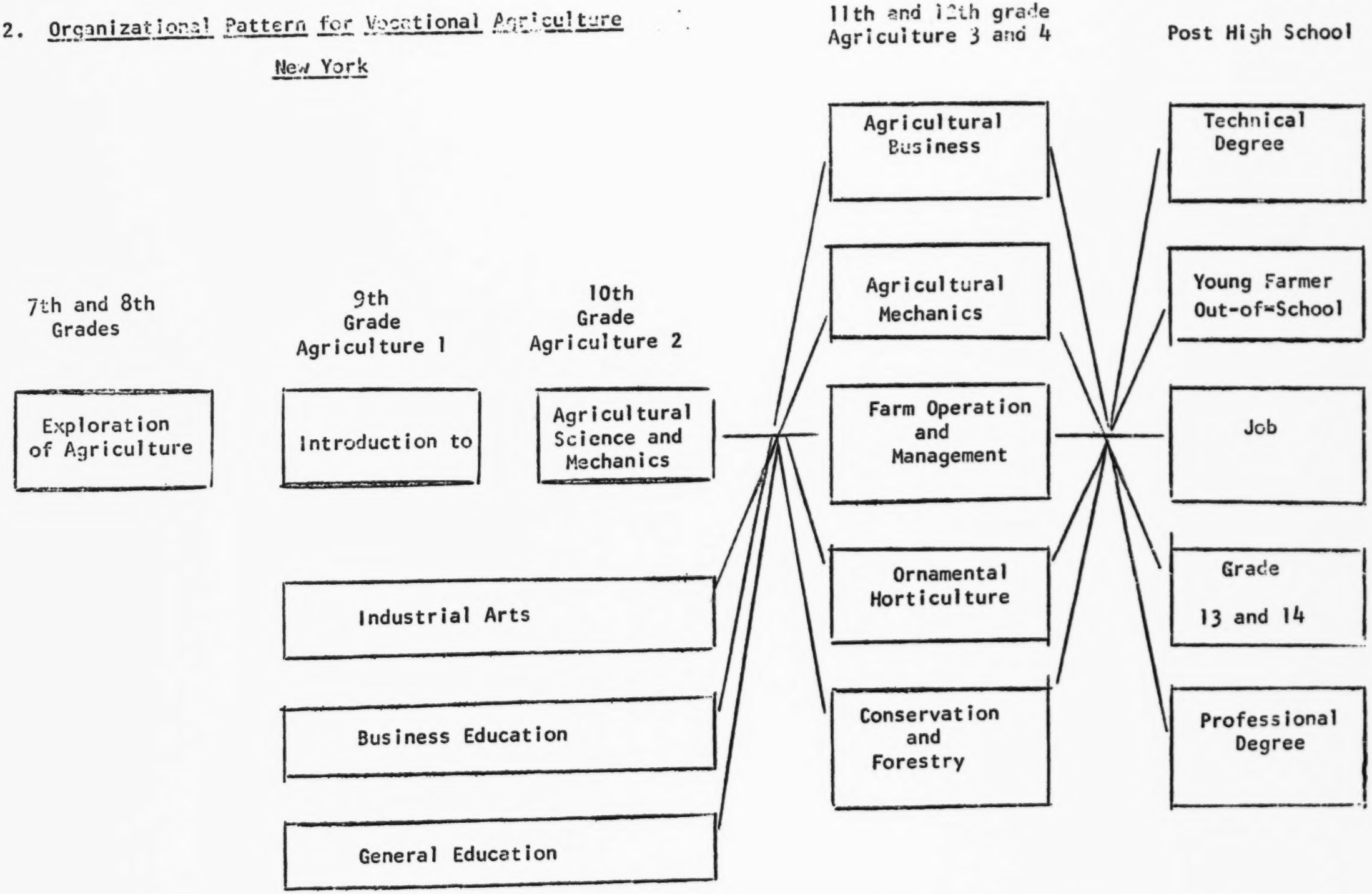
1. Vocational Agriculture Curriculum - Example A

	Non Vocational	Vocational
8th	Agriculture and Nature	
9		Basic Agriculture
10		Agricultural Production
11-12	Agricultural Economics Vocational Agriculture Landscaping Rural Sociology	



2. Organizational Pattern for Vocational Agriculture

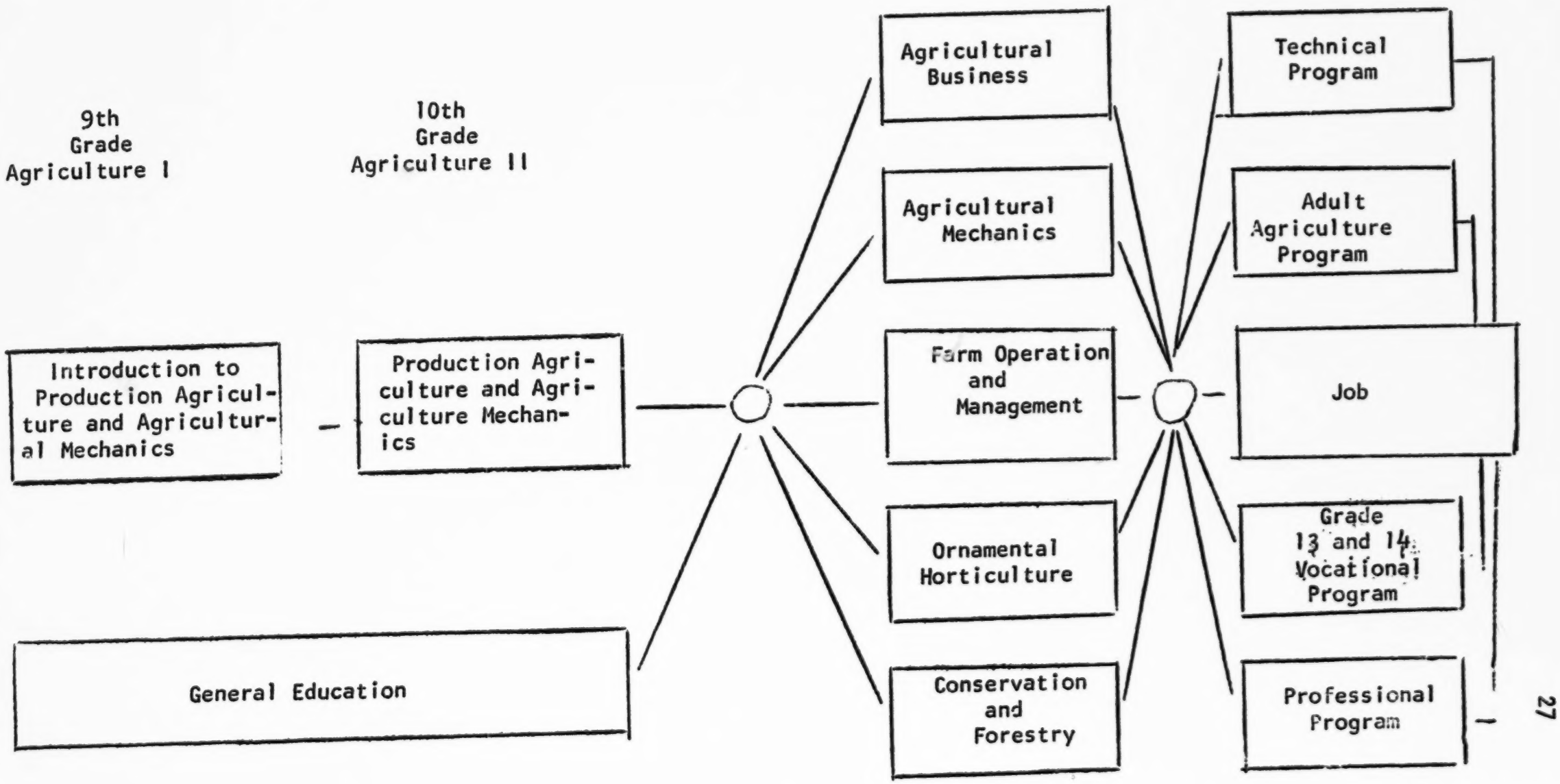
New York



- Courtesy of Dr. Harold Noakes, Bureau of Agriculture Education, State Education Dept., Albany New York

3. Organizational Pattern for Vocational Agriculture

Illinois

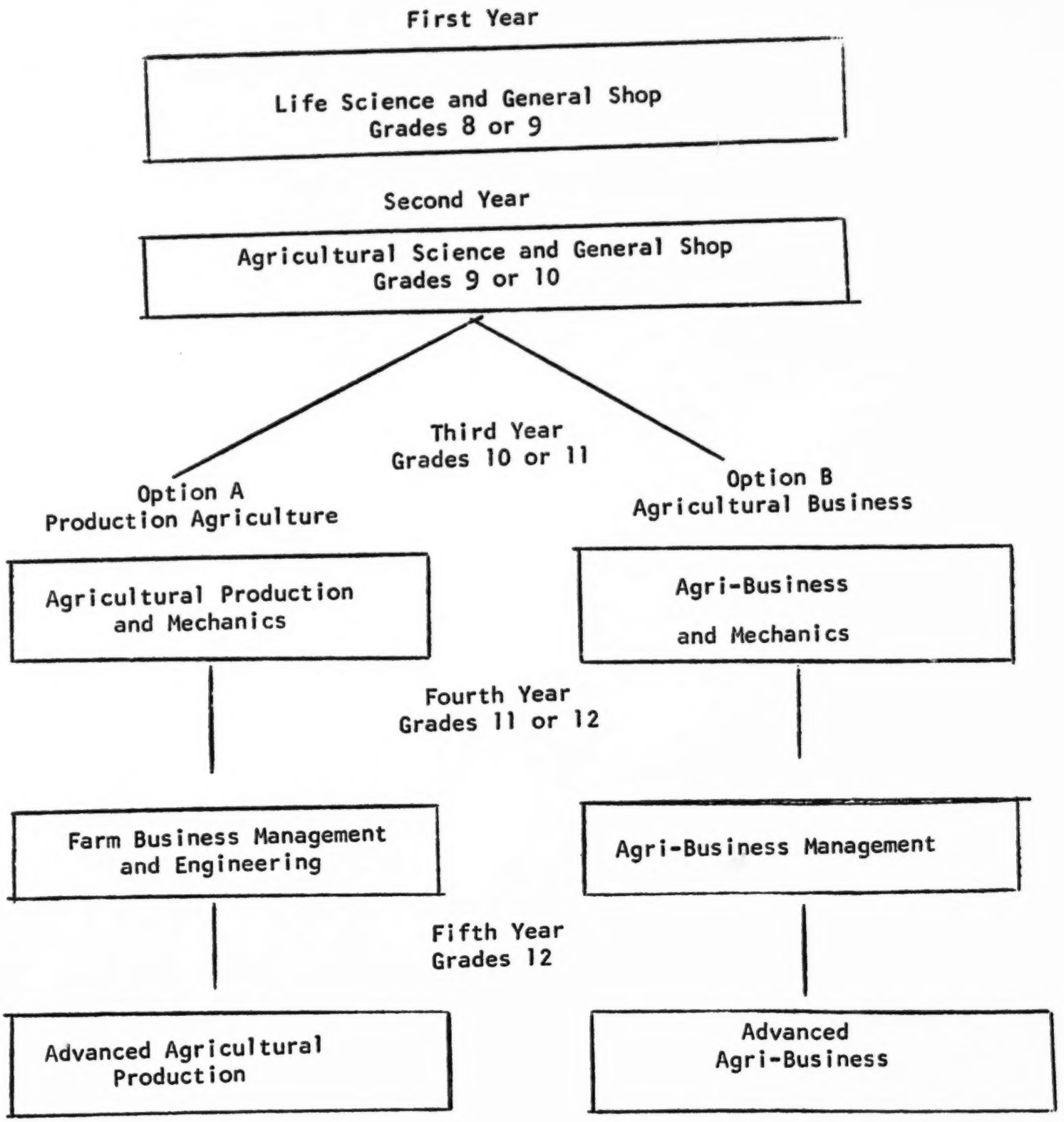


Courtesy of Mr. Ralph Guthrie, Chief
Agriculture Education
State Board of Vocational Education
Springfield, Illinois

*Supervised Farming and/or Agricultural Experience Program Required

4. Vocational Agriculture Curriculum

Alabama



Courtesy of Mr. T. L. Faulkner, State Supervisor
Vocational Agriculture Education
Department of Education
Montgomery, Alabama

5. Vocational Agriculture Curriculum

Manitowoc, Wisconsin - William Rienks

The following is a proposed curriculum in Agriculture that would be best adapted to a school with the junior-senior high school set-up and with limited shop facilities.

I. The Farm Curriculum (3 year course)

A. Crop and Soil Science (10, 11, or 12th grade)

1. Plant growth
2. Soil Science
3. Fertilizers
4. Forestry
5. Horticulture
6. Conservation

B. Animal Science (10, 11, or 12)

1. Herd testing and analysis
2. Feeds and Feeding
3. Dairy Science,
4. Beef science
5. Hog Science
6. Poultry Science
7. Livestock Judging

C. Farm Management and Mechanics

1. Farm economics
2. Farm records
3. Farm law
4. Farm ownership
5. Managing a farm
6. Farm machinery
7. Tractors and motors
8. Electricity
9. Farm buildings

II Non-Farm Curriculum (2 years)

A. Agriculture Science and Conservation

1. Crops, soils, fertilizers
2. Agriculture as an industry
3. Livestock nutrition
4. Horticulture
5. Marketing
6. Landscaping
7. Conservation

B. Agriculture Careers

This course would be for students interested in a specific agricultural career. Students in this class would need consent of instructor to enroll. Each student would make a detailed study of this occupation using an advanced text for his reference. It would be possible that no two students in this class would be studying the same material or using the same text. This course would be open to those who had taken the ag. science & conservation course or had completed 2 years of the farm curriculum.

Modern Integrated Structure

1. Vocational Agriculture Curriculum - Wisconsin State Board Suggested

A. **BASIC COURSE**

Year	Class	
9	Agriculture 9	
10	Agriculture 10	Specialized Interest Unit Areas Examples: Horses, Poultry, Cherries, Apples, Irrigation, Strawberries, Cranberries, Tobacco, Truck Gardening, Cash Crops, etc. (As local community opportunities justify, these units may be offered as part of the Basic Course in Agriculture 10 and/or Agriculture 11.)
11	Agriculture 11	
12	Agriculture 12	

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B. **SUPPLEMENTARY OFFERINGS FOR OFF-FARM OCCUPATIONS**

Year	Class	
11	Agricultural Business Agricultural Mechanics Horticulture Conservation and Forestry	Classes offered as warranted by: 1. Instructors time 2. Importance locally 3. Occupational opportunities 4. Instructors ability to teach course effectively or as he acquires this competency.
12	Etc.	

2. Vocational Agriculture Curriculum

Big Foot High School - Jerry Palzkill, Instructor

Walworth, Wisconsin

	Semester I	Semester II
Ag. I	Introduction Basic Weed Study Farm Shop	Basic Soil & Plant Study Orchard Care & Mgt.
Ag. II	Livestock Mgt.	Farm Shop Livestock Selection Farming Programs Pasture Crops
Ag. III (Alternate Years)		Agricultural Economics Farm Management Farm Structures Farm Accounts and Records Advanced Livestock Feeding Forage Crop Production Farming Programs
Ag. IV.	Farm Law	Farm Power & Electricity Marketing Advanced Soil Study Forage Crop Production Farming Programs
Conservation	Non-farm and farm students Senior level only	

3. Agricultural Science Curriculum (1965-66)

Fort Atkinson, Wisconsin - Dan Scheid, Instructor

Junior & Senior High Schools [1]

Ag. Science I --- (9th Grade Level), "Introduction To Ag. Sciences"

Core Units	Related Units [2]
I. Intro. To Agriculture	A. Veterinary Practices
II. Basic Agronomy	B. Safety Instruction
III. Agricultural Laboratory Techniques & Prins.	C. Agricultural Math
IV. Basic Animal Nutrition (Thumb Rules & Elementary Facts of Feeding Animals)	D. Agricultural Math
V. Advanced Agronomy - Plant Growth and Culture	E. Forestry
VI. Animal Science - Livestock Selection	F. Poultry Management

Agricultural Science II ---- (10th Grade Level), "Livestock, Horticultural, & Agricultural Engineering Practices & Skills"

Core Units	Related Units
I. Occupational Guidance For Careers In Agriculture	A. Livestock Conservation
II. Advanced Livestock Nutrition	B. House Plants - Lawns - Greenhouses
III. D.H.I. Record Analysis. How To Evaluate Electronic Records	C. Light Horses
IV. Agricultural Engineering Skills & Practices	D. Small Animals
V. Animal Science - Swine Management	E. Fencing
VI. Animal Science - Sheep Management	F. Laboratory Procedures
VII. Animal Science - Beef Management	

· The amount of time to be spent on each unit and the correct order of teaching the units are yet to be determined.

2 If time permits and according to individual student interests.

Agricultural Science III ----- (11th Grade Level), "Advanced Agricultural Engineering, Animal, Plant, and Economic Sciences & Practices"

Core Units	Related Units
I. Soils & Fertilizers	A. Land Judging
II. Dairy Science - Advanced Dairy Cattle Mgm.	B. Geology as applied to Ag.
III. Ag. Engineering - Metals & How To Weld Them	C. Agricultural Advertising
IV. Agricultural Accounting State & Federal Income Tax Farm Business Analysis	D. Ag. Chemistry & Bacteriology
	E. Pumps & Pumping
V. Mechanization Field Machinery Materials Handling	F. Plant Propagation
VI. Agricultural Marketing	
VII. Forms of Agricultural Business	
VIII. Building Structures	
IX. Land Surveying	
X. Concrete Construction	

Agricultural Science IV ---- (12th Grade Level), "Advanced Agricultural *Mechanics, Sciences*, Economics, and Career Guidance."

I. Agricultural Career Study and Guidance	A. Plant Pathology
II. Entomology - Animal Pests	B. Civil Defense
III. Farm Law	C. Weather & Agriculture
IV. Agricultural Engineering - Electricity	D. Wildlife Conservation
V. Agricultural Organizations	E. Agricultural Journalism
VI. Insurance	F. Hydraulics
VII. Agricultural Government Programs	G. Fuels & Lubricants
VIII. Agricultural Economics - Farm Management	
IX. Agricultural Credit	
X. Electric Motors	
XI. Engines - Gas & Diesel	

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V

CONCLUSION

The revision or development of a new and meaningful curriculum in vocational education in agriculture is a complex undertaking. It is a process which must go through several developmental stages. Of primary importance in the development of a curriculum are the answers to questions such as: What should be the objectures and goals of the program? Who and what should be taught in vocational agriculture?

In the past, vocational agriculture has done a tremendous job of training youth for proficiency in farming and assisting out-of-school youth and adults solve agricultural problems in their farming operations. Today, agriculture is no longer a single entity, but several. Agriculture can be considered as comprising two major components: the farming or production segment and the nonfarming or agri-business segment. The art of farming is being replaced by science and technology and by business principles and techniques.

Change is inevitable in today's rapidly expanding society. The curriculum in vocational agriculture must change with the times. No one person knows what kinds of programs should evolve to replace the present ones. People at the local, state and national levels should play the major roles in arriving at realistic and mutually acceptable solutions to problems relating to new programs. Significant progress has been made in Wisconsin toward the development of a realistic curriculum during the past few years. This momentum must not be lost. Each teacher must accept the responsibility to stimulate thought and action at all levels to keep the vocational agriculture program in Wisconsin at the forefront of agricultural innovation.